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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/473,650	12/29/1999	CARL R. STEVENSON	STEVENSON-8	1262

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EXAMINER

PEREZ GUTIERREZ, RAFAEL

ART UNIT

PAPER NUMBER

2686

DATE MAILED: 09/02/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.
09/473,650

Applicant(s)
Stevenson

Examiner
Rafael Perez-Gutierrez

Art Unit
2686



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jun 19, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on Jun 19, 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

Art Unit: 2686

DETAILED ACTION

1. This Action is in response to Applicant's amendment filed on June 19, 2003. **Claims 1-21** still pending in the present application. **This action is made FINAL.**

Drawings

2. The proposed drawing corrections filed on June 19, 2003 have been approved by the Examiner.

Claim Objections

3. **Claims 1 and 8** are objected to because of the following informalities:
 - a) On **line 6** of **claim 1**, insert --and-- after "signal;"
 - b) On **line 7** of **claim 1**, replace "mean;" with --means-- after "finding";
 - c) On **line 7** of **claim 8**, replace "the" with --a-- before "substantially" in order to provide proper antecedent basis; and
 - d) On **line 10** of **claim 8**, insert --and-- after "thereof;"

Appropriate correction is required.

Art Unit: 2686

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. **Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuchman et al. (U.S. Patent # 6,148,195) in view of Applicant's admission of prior art.**

Consider **claim 1**, Schuchman et al. clearly show and disclose a cellular telephone (wireless) communication system, comprising:

a transmitter for transmitting a signal (RF (common) transceiver in abstract);
a plurality of antennas SA1-SAN for use by one receiver (abstract, figures 9 and 11, and column 6 lines 6-14 and 40-48);

Art Unit: 2686

an antenna resolver 40 (scanner) (figure 11) adapted to scan through the plurality of antennas SA1-SAN and in turn provide a signal received from each of the plurality of antennas SA1-SAN to the receiver and to impart a phase onto a received signal (column 6 lines 40-55); and

a receiver (figure 11) having direction finding means for determining the bearing of a received signal in accordance with the phase thereof (abstract, figures 2, 9, and 11, column 1 lines 46-54, column 3 lines 38-44, and column 6 lines 6-55).

However, Schuchman et al. do not specifically disclose that the receiver is configured to eliminate multipath channel impairments.

Applicant's admission of prior art discloses the use of a receiver configured to eliminate multipath channel impairments in a similar environment such as the one taught by Schuchman et al. for effective elimination of many types of channel distortions thereby allowing the receiver to derive correction terms and correct for the multipath impairments in accordance with its normal operation (page 3 line 37 - page 6 line 6).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the system of Schuchman et al. by using the receiver disclosed by Applicant's admission of prior art in order to effectively eliminate channel distortions and permit the receiver in the system Schuchman et al. to correct for multipath impairments thereby increasing the performance of the direction finding means.

Consider **claims 2 and 3**, and **as applied to claim 1 above**, Schuchman et al. further

Art Unit: 2686

show and disclose that the scan rate of the antenna resolver 40 (scanner) (figure 11) for scanning each of the plurality of antennas SA1-SAN is at least 100 hertz (at least 2000 hertz for the plurality of antennas SA1-SAN) (figure 10 and column 6 lines 22-39).

Consider **claim 4**, and **as applied to claim 1 above**, Schuchman et al. also show and disclose that the plurality of antennas SA1-SAN are equidistant from a center point (figures 2 and 9 and column 1 lines 46-54).

Consider **claim 5**, and **as applied to claim 4 above**, Schuchman et al. further show and disclose that the plurality of antennas SA1-SAN are spaced equally apart around a circular array (circumference of a circle) formed about said center point (figures 2 and 9 and column 1 lines 46-54).

Consider **claim 6**, and **as applied to claim 1 above**, Schuchman et al. also show and disclose that the plurality of antennas SA1-SAN comprises at least three antennae (e.g., SA1, SA2, SA3) (figures 2 and 9).

Consider **claim 7**, and **as applied to claim 1 above**, Schuchman et al. further show and disclose that the antenna resolver 40 (scanner) continuously scans and connects each of the plurality of antennae SA1-SAN in turn to the receiver for a substantially equal period of time (figures 2 and 9 and column 6 lines 14-21 and 40-50).

6. **Claims 8-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Schuchman et al. (U.S. Patent # 6,148,195)** in view of **Applicant's admission of prior art**, as applied to

Art Unit: 2686

claims 1-7 above, and further in view of **Borras et al. (U.S. Patent # 5,303,240)** and further in view of **Sole et al. (U.S. Patent # 6,150,987)**.

Consider **claims 8, 9, and 13**, and as **applied to claims 1 and 7 above**, Schuchman et al., as modified by Applicant's admission of prior art, clearly show and disclose the claimed invention except that the plurality of antennas SA1-SAN are operated as a phased array during a transmit mode.

Borras et al. clearly show and disclose a communication system for determining the direction for transmitting and receiving a signal comprising an array of phased antennas 10 (figure 2) used for receiving as well as transmitting a signal (column 2 lines 51-66 and claims 1, 4, 5, 7-9, and 12-16).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combined teachings of Schuchman et al. and Applicant's admission of prior art with the teachings of Borras et al. in order to use the plurality of antennas as a phased array during a transmission mode. Efficient use of the system gain can be achieved by using the antennas as a phased array during a transmit mode.

However, Schuchman et al. as modified by Applicant's admission of prior art and as further modified by Borras et al. do not specifically disclose that the wireless communication environment is a substantially stationary wireless communication environment.

Sole et al. clearly show and disclose an antenna assembly and a method for communicating using said assembly in a substantially stationary wireless communication

Art Unit: 2686

environment such as a wireless local loop, said method including, among other steps, the steps of scanning an antenna and finding the bearing of a received signal (abstract, column 1 line 55 - column 2 line 47, column 3 lines 40-59, and column 4 lines 17-28 and 47-65).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to further modify the combined teachings of Schuchman et al., Applicant's admission of prior art, and Borrás et al. with the teachings of Sole et al. in order to used said method of communication in a substantially stationary wireless communication environment such as, for example, a wireless local loop as taught by Sole et al.

Consider **claims 10-12 and 14-17**, and **as applied to claim 8 above**, Schuchman et al. (abstract) and Borrás et al. (abstract and column 1 lines 6-9) both disclose that their teachings apply to wireless communications systems, therefore, they at least suggest that wireless communication environment can be a wireless local area network, a cordless telephone or modem, a cellular or PCS telephone, a trunked mobile radio system or a mobile satellite communications system.

Consequently, it would have been clearly obvious to a person of ordinary skill in the art at the time the invention was made to applied the teachings of Schuchman et al., Applicant's admission of prior art, Borrás et al., and Sole et al. in any of the above-mentioned environments.

Consider **claims 18 and 19**, and **as applied to claim 8 above**, Schuchman et al. further show and disclose that the scan rate of the antenna resolver 40 (scanner) (figure 11) for scanning each of the plurality of antennas SA1-SAN is at least 100 times per second (at least 2000 times

Art Unit: 2686

per second for the plurality of antennas SA1-SAN) (figure 10 and column 6 lines 22-39).

Consider **claim 20**, and **as applied to claim 8 above**, Schuchman et al. also show and disclose that the plurality of antennas SA1-SAN are located substantially equidistant from a center point (figures 2 and 9 and column 1 lines 46-54).

Consider **claim 21**, and **as applied to claim 20 above**, Schuchman et al. further show and disclose that the plurality of antennas SA1-SAN are spaced equally apart around a circular array (circumference of a circle) formed about said center point (figures 2 and 9 and column 1 lines 46-54).

Response to Arguments

7. Applicant's arguments with respect to claims 1 and 8 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office Action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE**

Art Unit: 2686

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any response to this Office Action should be **faxed to (703) 872-9314 or mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Hand-delivered responses should be brought to

Crystal Park II
2021 Crystal Drive
Arlington, VA 22202
Sixth Floor (Receptionist)

10. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Rafael Perez-Gutierrez whose telephone number is (703) 308-8996. The Examiner can normally be reached on Monday-Thursday from 6:30am to 5:00pm.

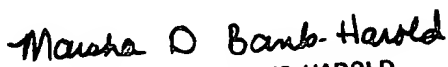
Art Unit: 2686

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Marsha D. Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700 or call customer service at (703) 306-0377.


Rafael Perez-Gutierrez
R.P.G./rpg **RAFAEL PEREZ-GUTIERREZ**
PATENT EXAMINER

August 26, 2003


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